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EXECUTIVE SUMMARY

Infection prevention and control is the responsibility of everyone in the healthcare community and is only truly successful when everyone works together under expert leadership. The COVID 19 pandemic has emphasised this clearly. Success is the product of everyone getting everything right; there is no single magic bullet in infection prevention. Instead there are bundles of measures that must be in place and adhered to at all times.

Whilst COVID 19 has consumed considerable time and energy toward the end of the last quarter of 2019-20, ‘business as usual’ has continued for the Infection Prevention and Control Team. This annual report shows how we are performing, where we do well and where we would like to do better.

The Royal Devon and Exeter NHS Foundation Trust (hereafter referred to as the Trust) has, in the opinion of the Joint Directors of Infection Prevention and Control, maintained compliance with the Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance (Department of Health, 2015).

This report takes the opportunity to celebrate the successes and highlights the increasing challenges going forward:

1. There have been no MRSA bacteraemias in 2019-20.

2. Surveillance definitions for Clostridium difficile infection changed in April 2019. This has meant that numbers apportioned to the Trust have increased in 2019 - 2020 and neither raw case numbers or rates can be compared to previous years. However, the rate of infection at 12.78 per 100,000 occupied bed days remains below the regional and national rate.

3. There has also been a slight reduction in E.coli bacteraemias. The rate of hospital onset cases is 19.37 per 100,000 occupied bed days which is an increase on the previous year but remains below the regional rate (Field Epidemiology South West, Public Health England, 2020).

4. Continuous surveillance of hip replacement/revision surgery, knee replacement/revision surgery and spinal surgery has continued. Increases in both knee and hip surgery resulted in a deep dive into each case of infection and the pathway of care for both groups of patients and infection prevention measures have been strengthened in both specialities. By Q4 a 0% infection rate had been achieved for both.

5. Very low central venous catheter related blood stream infection rates have been maintained even in high risk specialties, such as oncology and haematology services.

6. Uptake of influenza immunisation has increased Trustwide at 78%. The acute hospital uptake was 80% meeting the national target.

7. Fewer cases of Influenza A and B were identified in hospital during the flu season than in the previous year. Since the implementation of point of care testing in 2017 the number of contacts for each case has also reduced from 3.75 contacts per case in 2017 to 1.13 this year.
8. The number of norovirus outbreaks was minimal with none resulting in whole ward closure.

9. Environmental cleanliness standards, which are monitored regularly and are validated quarterly, have been maintained to a good standard. The Patient Led Assessment of the Clinical Environment (PLACE) showed that previous high standards are being maintained.

10. The annual deep cleaning programme which is usually completed over the Spring/Summer was not completed this year due to capacity pressures. However, due to reduced capacity in 2020-21 due to COVID 19, an early start to the programme has been made for this year.

11. Processes for the decontamination of medical devices, reusable invasive instruments and hospital linen are all undertaken to national standards.

12. The Trust has safe water systems at the main sites at Wonford, Heavitree and in premises administered by the Trust. However, some premises are owned and maintained by other organisations and whilst improvements have been made to legionella control in these premises, such as the use of secondary control measures, further work is required.

13. A comprehensive programme of education and training has been delivered either face to face or via e-learning. The programme is provided for all relevant disciplines of staff on general infection prevention and control procedures, hand hygiene, antimicrobial prescribing and aseptic technique.
1. INTRODUCTION

1.1 The purpose of this report is to inform patients, public, staff, the Trust Board of Directors, Council of Governors and Northern, Eastern and Western Devon Clinical Commissioning Group (CCG) of the infection prevention and control work undertaken in 2019-20 and provide assurance that the Trust remains compliant with the Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance (Department of Health, 2015). It covers the management arrangements, the state of infection prevention and control within the Royal Devon and Exeter NHS Foundation Trust (hereafter referred to as ‘the Trust’), outcomes and progress against performance targets.

1.2 Avoidable infections are not only potentially devastating for patients and healthcare staff, but consume valuable healthcare resources. The cost of infection has never been more clearly demonstrated than through the impact of SARS-CoV-2. Investment in infection prevention and control remains both necessary and cost effective.

1.3 Infection prevention and control is the responsibility of everyone in the healthcare community and is only truly successful when everyone works together under expert leadership. Again, pandemic COVID 19 has emphasised this clearly. Success is the product of everyone getting everything right; there is no single magic bullet in infection prevention. Instead there are bundles of measures that must be in place and adhered to at all times.

1.4 Whilst COVID 19 has consumed considerable time and energy in the last quarter of 2019-20, ‘business as usual’ has continued for the Infection Prevention and Control Team. This annual report shows how we are performing, where we do well and where we would like to do better.

1.5 The authors would like to acknowledge the contribution of other colleagues to this report, in particular, the sections on environmental cleaning, linen decontamination and antimicrobial prescribing.
2. INFECTION PREVENTION AND CONTROL ARRANGEMENTS

2.1 Infection Prevention and Control Team

2.1.1 The infection prevention and control team employed by the Trust also provide a service to Devon Partnership Trust and to Integrated Children's Services Devon via service level agreements. A variation to contract was approved in 2019-20 resulting in the team starting to contribute to the Devon CCG Community Infection Management Service across Devon. This primarily involves providing services to primary care and care homes in Eastern Devon.

2.1.2 The long standing Lead Nurse and Joint DIPC, Judy Potter, retired in December 2019. Several months prior to her retirement she was seconded to the MyCare Programme as Chief Nursing Information Officer taking her out of the Infection Prevention and Control Team 3 days a week. Mel Burden and Penny Criddle backfilled this time out for several months. In preparation for her retirement, a Consultant Nurse/Joint DIPC position was advertised nationally and Mel Burden was appointed.

2.1.3 In addition, a range of other registered specialist nurses from band 6 - 8A are employed to deliver the work programme within the Trust and in accordance with service level agreements with other organisations and the variation to contract to support the Devon CCG Community Infection Management Service. There are considerable benefits associated with having one infection prevention and control team delivering a service to multiple care providers in the same geographical area, not least because, as demonstrated by COVID 19, infections do not respect organisational barriers. Clearly, this provides continuity and consistency of approach for service users who also move between provider services through their care pathway. There is also a benefit to team members because, with regular rotation, specialist practitioners gain varied experience, are able to recognise and respond to differing levels of risk, differing needs and can apply their specialist knowledge and skills in a variety of settings.

2.1.4 The service is supported by healthcare assistants/clinical infection surveillance practitioners and administrative and clerical staff who also support the tissue viability nurse specialist team.

2.1.5 An onsite day time infection prevention and control nursing service is provided 7 days a week with an on-call service available in the evenings and overnight. All nurses who provide the on call advice service have completed a specialist post graduate programme of study and are experienced infection prevention and control specialists. There is also 24/7 consultant medical microbiologist cover.

2.1.6 There have been significant staffing challenges during the year as in addition to Judy Potter's secondment and then retirement, three other very experienced members of the team retired during this period, namely Carlton Kneil, Senior Nurse for the acute service and Jan West, Senior Nurse for the Community Services and Jan De Witt, Nurse Specialist. Filling these vacant positions took time but at the year end, positions had been filled with appointees from within the team and novice nurse specialists appointed to vacated lower banded positions.
2.1.7 In quarter 4, as a result of the pressures associated with COVID 19, some retired members of the team have returned providing a few hours to days of support to the substantive team.

2.1.8 During the same period, the number of consultant medical microbiologists has increased through the appointment of two new consultants supplementing the previously under resourced team. They have been able to make a significant contribution to antimicrobial stewardship and infection prevention and control work programmes as well as COVID 19 control activities toward the end of the year.

2.1.9 One of the medical microbiologists, Dr Rob Porter, fulfils the role of Infection Control Doctor (ICD). The same medical microbiologist is also the ICD under the service level agreement with Devon Partnership Trust. A further 0.25 sessions of clinical time is funded for this.

2.2 Joint Directors of Infection Prevention and Control

The Infection Control Doctor (ICD) and the Lead Nurse/Consultant Nurse are Joint Directors of Infection Prevention and Control (DsIPC), reporting to the Chief Executive, when required, and liaising monthly with the Executive Medical Director who is the executive lead for health care associated infection. The Joint DsIPC meet the competencies required for this role (DH, 2004). The Infection Control Doctor is also currently designated as the Trust Decontamination Lead.

2.3 Infection Prevention and Control Governance Structure

An Infection Control and Decontamination Assurance Group is chaired by the Consultant Nurse/Joint DIPC and the membership ensures representation from support services and senior clinical colleagues, including the Executive Medical Director. The group meets quarterly and, a quorate group has met the Terms of Reference (Terms of Reference attached at Appendix A (page 50) albeit virtual meetings in Q4 due to COVID 19. Reporting to this group are three operational groups namely:

<table>
<thead>
<tr>
<th>Operational Group</th>
<th>Chaired by Doctor/Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decontamination Operational Group</td>
<td>Infection Control Doctor</td>
</tr>
<tr>
<td>Water Safety and Ventilation Group</td>
<td>Infection Control Doctor</td>
</tr>
<tr>
<td>Antimicrobial Stewardship Group</td>
<td>Consultant Microbiologist/Antimicrobial Stewardship Lead</td>
</tr>
</tbody>
</table>

2.4 Reporting line to Board of Directors

The Infection Control and Decontamination Assurance Group report to the Board of Directors through the Safety and Risk Committee.

2.5 Links to the Antimicrobial Stewardship Group

2.5.1 The antimicrobial stewardship team is led by a Consultant Medical Microbiologist who has 3.5 PAs job planned for antimicrobial stewardship activities. Working collaboratively, the Consultant Medical Microbiologist and
Antimicrobial Pharmacist (0.9 WTE) provide leadership to influence and promote the safe and effective use of antimicrobials across the Trust in accordance with local and national guidelines. This is achieved through a variety of activities including: guideline development and dissemination; training and education of healthcare staff; risk management; audit and surveillance; and via expert clinical input. Clearly, staffing issues have affected the time available for such activities during this year.

2.5.2 The Antimicrobial Stewardship Group (ASG) is tasked with ensuring that antimicrobial drugs are utilised throughout the Trust in a way which results in optimal treatment of infections while minimising the risk of adverse effects, including healthcare associated infections. The group is chaired by a Consultant Medical Microbiologist and reports to both the Medicines Management Group (MMG) and the Infection Control and Decontamination Assurance Group (ICDAG).

2.6 Links to Clinical Governance/Risk Management/Patient Safety

Joint Directors of Infection Prevention and Control are members of the Clinical Effectiveness Committee, Patient Safety and Mortality Review Group, Emergency Preparedness Resilience And Response Group and the Health and Safety Group thus ensuring that infection prevention and control is considered by these committees.

3. DIPC REPORTS TO THE BOARD OF DIRECTORS

3.1 Number and Frequency

3.1.1 The Board of Directors (BoD) approved the annual report for 2018-19 and annual programme for 2019-20 in July 2019. Monthly reports are made through the integrated performance report on key performance indicators. The BoD also receives the Infection Control Performance Dashboard quarterly.

3.1.2 An assurance report highlighting the activities and decisions made by the Infection Control and Decontamination Assurance Group is made after every meeting to the Safety and Risk Committee that is chaired by the Chief Executive.

3.1.3 The Joint Directors of Infection Prevention and Control have had regular meetings during the year with the executive lead for healthcare associated infection. In addition, information regarding outbreaks is communicated daily.

3.2 Annual Programme

3.2.1 An annual programme is prepared by the Infection Prevention and Control Team, agreed by the Infection Control and Decontamination Assurance Group and ratified by the Board of Directors.

3.2.2 The programme of work is mapped to the duties of the Code of Practice thus demonstrating the continued work to maintain compliance with the Code. Progress is monitored by the Infection Control and Decontamination Assurance Group. Any significant delays to the programme are escalated to the Safety and Risk Committee.
3.2.3 The annual programme is a dynamic programme and often work streams are added to it within the year in response to unforeseen national and local drivers.

3.2.4 A slight reduction to the planned work was made in Q4 given the pressures to the Trust related to COVID 19 activity
4. SURVEILLANCE OF HEALTHCARE ASSOCIATED INFECTION

4.1 Surveillance is more than just the recording or reporting of infections (see figure 1). Data is collected in accordance with strict definitions and protocols to ensure consistency. Some surveillance data are only reported internally and other data are reported externally either as part of mandatory or voluntary surveillance schemes. However, the most important element of surveillance is feedback to clinicians. Feedback prompts review of, and where necessary, planned improvements to clinical practice. Even where practice appears to be appropriate, feedback may result in very subtle, often unconscious, improvements to individual practice that may reduce low rates even further.

Figure 1 - Surveillance cycle

4.2. Mandatory Surveillance

4.2.1 Mandatory reports are made to Public Health England (PHE). These include the reporting of:

- *Staphylococcus aureus* bacteraemia
- *Escherichia coli, Klebsiella and Pseudomonas* bacteraemia
- *Clostridium difficile*
- Orthopaedic Surgical Site Infection

4.3 *Staphylococcus aureus* bacteraemia

4.3.1 *Staphylococcus aureus* is a bacterium commonly found colonising the skin and mucous membranes of the nose and throat. Although most people carry this organism harmlessly, it is capable of causing a wide range of infections from minor boils to serious wound infections and from food poisoning to toxic shock syndrome. In hospitals, it can cause surgical wound infections and bloodstream infections. When *Staphylococcus aureus* is found in the bloodstream it is referred to as a *Staphylococcus aureus* bacteraemia.

4.3.2 Patient-level data is collected and submitted through an on line data capture system. This was made mandatory for meticillin resistant *Staphylococcus aureus* (MRSA) bacteraemias in 2005 but remained voluntary for meticillin sensitive *Staphylococcus aureus* (MSSA) until 2011 when it too became
mandatory. The enhanced data set allows distinction to be made between bacteraemias that are hospital or community attributable. It also identifies the care details and risk factor information which enables improvement strategies to be targeted which have been very effective.

4.3.3 Outcomes for MSSA and MRSA bacteraemia surveillance and, in the case of MRSA bacteraemia, performance against the national objective of ‘zero tolerance’ are described at section 15

4.4 *Escherichia coli* Bacteraemia

4.4.1 *Escherichia coli* (commonly referred to as *E. coli*) is found in the gut and is part of the normal flora.

4.4.2 The commonest infections caused by *E. coli* are infections of the urinary and biliary tracts. Invasion from the primary infection site, such as the urinary tract, to the bloodstream leads to blood stream infection (*E. coli* bacteraemia).

4.4.3 Antibiotic resistance has increased in recent years with some *E. coli* able to produce enzymes that confer resistance to multiple antibiotics.

4.5.4 The aim of the surveillance is to allow more accurate determination of possible interventions to prevent avoidable bacteraemias.

4.4.5 The majority of cases of *E. coli* are not hospital onset and therefore when a national improvement objective was set from April 2017, it was included as part of the Quality Premium for CCGs to encourage a whole health economy approach to improvement with a 50% reduction to be achieved by 2020/2021. All cases, whether community or hospital onset, whether health care associated or not, are investigated by the Trust Infection Prevention and Control Team and the findings are shared with the CCG lead. All cases are reported via the PHE Data Capture System. This also applies to other gram negative organisms such as Klebsiella and Pseudomonas and bacteraemias caused by these organisms are also reported.

4.4.6 Outcomes for *E. coli* bacteraemia surveillance are described at section 15

4.5 *Clostridium difficile* (*C. difficile*)

4.5.1 *Clostridium difficile* is a bacterium in the bowel that releases a toxin which causes colitis (inflammation of the colon), and symptoms can range from mild diarrhoea to life threatening disease. Asymptomatic carriage also occurs. Infection is often associated with healthcare, particularly the use of antibiotics which can upset the bacterial balance in the bowel that normally protects against *C. difficile* infection. Infection may be acquired in the community or hospital, but symptomatic patients in hospital may be a source of infection for others through environmental contamination where the spores produced by the organism can survive indefinitely.

4.5.2 Changes to the apportionment definitions were made and effective from April 2019. Previously, acute Trust apportioned cases were those that were identified on or after day 4 of admission. This was reduced in April 2019 to cases identified on or after day 3 of admission.
4.5.3 Furthermore, previously any cases identified in the community or on day 1, 2, and 3 of admission to hospital were considered community acquired. This has changed with those cases that are associated with a discharge from the same hospital in the 28 days prior to the *C. difficile* being identified also be apportioned to the acute Trust.

4.5.4 The changes to definitions for reporting and apportionment have meant an increase in Trust apportioned cases and therefore comparisons with previous year performance outcomes cannot be made.

4.5.5 Each case identified in hospital is investigated and precipitating factors examined. If there appear to be linked cases, samples are sent to reference facilities for strain typing to determine whether the cases represent cross infection.

4.5.6 National objectives for reduction of *C. difficile* are set and local targets and outcomes are described in section 15.

4.6 Orthopaedic Surgical Site Infection

4.6.1 It is a mandatory requirement to conduct some surveillance of orthopaedic surgical site infections, using the PHE Surgical Site Infection Surveillance Service. The data set collected is forwarded to the service for analysis and reporting. This system is controlled and validated to allow comparison between centres.

4.6.2 The mandatory requirement is for a 3 month module of surveillance of one of the orthopaedic options, namely

- Open reduction of long bone fracture
- Fractured neck of femur
- Hip arthroplasty
- Knee arthroplasty

4.6.3 However, a more accurate and meaningful rate can be ascertained by continuous surveillance and therefore, continuous surveillance of all knee and hip arthroplasty has been undertaken for the last 12 years and clinicians have engaged well in receiving surveillance feedback, making changes to practice and reducing their rates of infection. Refer section 15 for results.

4.7 MRSA Screening of Elective Admissions

4.7.1 The rationale for screening non-emergency patients is to identify MRSA carriers, enabling application of topical decolonisation or suppression treatment either immediately prior to admission or on admission and the use of appropriate systemic antimicrobial prophylaxis at time of procedure, if this is appropriate.

4.7.2 Our local experience demonstrated that universal screening of all elective admissions was not of benefit to many subsets of patients and proposed a reduction that was approved by the commissioners several years ago. Subsequently, it has been agreed nationally that screening should be undertaken based on an assessment of risk.
4.7.3 We have for several years screened all elective patients in the following subsets:

- Surgical and orthopaedic in-patients
- Orthopaedic day cases
- Patients undergoing AV fistula formation or graft for dialysis

4.7.4 Screening rates are monitored monthly and the proportion of patients screened is high, with higher risk specialties such as Orthopaedics being above 90%.

4.8 MRSA Screening of Emergency Admissions

4.8.1 Approximately 85% of patients admitted as emergency admissions are screened within 24 hours of admission.

4.8.2 Screening identifies MRSA carriers, enabling application of topical decolonisation or suppression treatment early in the admission and will inform the use of effective systemic antimicrobial prophylaxis, if this is appropriate.

4.9 Catheter-associated Urinary Tract Infection Point Prevalence Rate

4.9.1 The NHS Safety Thermometer is an improvement tool for measuring, monitoring and analysing patient harms and ‘harm free’ care.

4.9.2 One element of the data collected relates to urinary catheters and urinary tract infection and allows the Trust to monitor the bi-monthly point prevalence rate of catheter associated urinary tract infection.

4.9.3 Data is collected on every in-patient ward by the ward matron applying clear definitions of catheter associated urinary tract infection.

4.9.4 The data shows that the mean catheter associated infection point prevalence rate remains low (refer Appendix B). A care bundle audit has been implemented with emphasis on appropriate indication for a catheter, timely removal of catheters and communication to other care givers on discharge through the development of a catheter passport. This has been supported by the publication of a new catheter policy and enhanced education for nursing staff.

4.10 Carbapenemase producing Enterobacteriaceae (CPE) surveillance

4.10.1 Enterobacteriaceae are a large family of bacteria that usually live harmlessly in the gut of all humans and animals. These organisms are the most common causes of opportunistic urinary tract infections, intra-abdominal and bloodstream infections.

4.10.2 Carbapenem antibiotics are a class of antibiotics normally reserved for serious infections caused by antibiotic-resistant Gram-negative bacteria (including Enterobacteriaceae).

4.10.3 Carbapenemases are enzymes that destroy carbapenem antibiotics, conferring resistance. They are made by a small but growing number of
Enterobacteriaceae strains. There are different types of carbapenemases, of which KPC, OXA-48, NDM and VIM enzymes are currently the most common.

4.10.4 Enterobacteriaceae have highly mobile genetic elements which allow them to transfer resistance genes very rapidly between different bacteria. Therefore once an individual becomes colonised with CPE there is high risk the resistant genes will spread to other bacteria.

4.10.5 The therapeutic options for CPE infection are extremely limited or non-existent.

4.10.6 CPE have been identified throughout the world with many countries associated with high prevalence. In the UK, over the last few years, there has been a rapid increase in the incidence of infection and colonisation by multi-drug resistant carbapenemase-producing organisms. A number of clusters and outbreaks have been reported in England, some of which have been contained, providing evidence that, when the appropriate control measures are implemented, these clusters and outbreaks can be managed effectively.

4.10.7 Early identification of patients colonised or infected with CPE is key to control. Screening of any patients with risk factors for CPE carriage on admission is recommended in national guidance. Patient risk factors include:

- hospitalisation in a hospital abroad in the last 12 months
- hospitalisation in a UK hospital which has problems with spread of carbapenemase-producing Enterobacteriaceae (if known)
- Previously known to have been infected or colonised with CPE

4.10.8 Hospitals in the UK that have problems with spread of CPE is an ever changing situation, therefore our local policy identifies screening of any patient who has been in hospital outside the SW peninsula in the last 12 months, the rationale being that we have good liaison with other infection prevention and control teams within the peninsular and would be made aware if there was a local issue. Nursing admission documentation includes prompts within the infection risk assessment section for assessing this risk and screening those with risk factors within four hours of admission.

5. VOLUNTARY SURVEILLANCE

In addition to mandatory surveillance, the infection prevention and control team conducts voluntary surveillance to monitor hospital infection in several areas. Some of the surveillance is ward based, such as surgical site infection, some is laboratory based but often a mixture of both. These include the following:

5.1 Vascular device associated bacteraemia surveillance

5.1.1 Feedback of vascular device associated bacteraemia rates to high risk specialities has enabled targeted work to be undertaken to reduce infection rates with sustained improvements seen over several years. This targeted work and improvements associated with the central and peripheral venous catheter care bundles across the Trust together with the use of good quality intravenous devices and dressings have been the most significant factors in preventing MRSA blood stream infections in patients who are colonised with MRSA.
5.2 **MRSA - Newly Identified**

5.2.1 Reduction of patients infected or colonised with MRSA also helps in the prevention of MRSA blood stream infection.

5.2.2 The numbers of patients diagnosed as MRSA positive in any body site for the first time are collected from laboratory data.

5.2.3 This includes people who are colonised (i.e. carrying the organism without any sign of infection – these are identified through admission screening) and those who have an MRSA infection of any type, for instance wound infections or urinary tract infections, not just blood stream infections (bacteraemias).

5.2.4 The infection prevention and control team advise on appropriate management of in-patients to reduce risk of transmission to others.

5.2.5 The number of new cases, or isolates, identified more than three days after admission (and which, therefore, may have been acquired in hospital) remains very low and stable following several years of reduction (Appendix B). Reduction to such low numbers, together with continued emphasis on high quality venous access device care underpins the reduction in MRSA bacteraemia rates over many years.

5.3 **Spinal Surgery - Surgical Site Infection**

5.3.1 Since September 2009, spinal surgery has been under continuous surveillance with a rate of infection usually similar to or below the national benchmark (refer Appendix B) despite the complexity of the surgery undertaken in this hospital in comparison with some other centres. (Refer section 15)

5.4 **Ventilator associated pneumonia**

5.4.1 A ventilator is a machine that is used to help a patient breathe by giving oxygen through a tube placed in a patient’s mouth or nose, or through a hole in the front of the neck and is used for patients who are too ill to breathe on their own.

5.4.2 Ventilator-associated pneumonia is a lung infection that may develop in a person who is on a ventilator. Ventilation bypasses the body’s normal defenses to infection, such as fine hair in the nostrils, mucous membranes in the upper respiratory tract and the cough reflex. Mechanical ventilation, combined with the fact that a patient that needs to be ventilated is already critically ill, makes the risk of infection much greater. An infection may occur if germs enter through the tube and get into the patient’s lungs. Pneumonia is a significant risk associated with mechanical ventilation however, a ‘bundle’ of control measures can reduce the risk of pneumonia.

5.4.3 A number of control measures collectively known as a ‘care bundle’ reduce the risk of ventilator associated pneumonia. The care bundle includes measures such as oral hygiene, elevating the patient head and suctioning. Both compliance with the bundle of control measures and the ventilator associated pneumonia rate per 1000 ventilator days is monitored in the intensive care unit and the infection rate is reported to the Infection Control
6. OUTBREAK AND INCIDENT REPORTS

6.1 Background

6.1.1 An incident is a near miss or a failure of infection prevention and control, usually without significant adverse consequence but where lessons may be learnt with the potential to prevent future serious events.

6.1.2 Outbreaks occur when there are two or more linked infections which may or may not be preventable. Usually, these events are, by definition, unpredictable. There may be a heightened alert for outbreaks of organisms with a typical seasonal activity such as influenza and norovirus, or alternatively there may be an international alert such as for Ebola Fever. The Infection Prevention and Control Team may become aware of incidents and outbreaks through formal schemes, e.g. structured ward liaison or laboratory based surveillance, the Trust electronic incident reporting system and audit, or through informal routes, such as unusual patterns observed and reported by an individual in the Trust. Early ascertainment is key to detecting and acting on incidents and outbreaks to minimise adverse outcomes.

6.1.3 The most significant issue in the last year was the start of the COVID 19 pandemic with cases starting to be identified in this area in early March 2020, however the main impact was seen in Q1 of 2020-2021 and therefore will not be reported here other than to state that the Trust response to COVID 19 has been remarkable and preparations have been made for any further surges.

6.1.4 Every year the Infection Prevention and Control Team recognise and respond to many incidents and potential outbreaks. Some are real but others turn out to be chance clusters that have not resulted from cross infection. It is not unusual to see variation in surveillance data and the Infection Prevention and Control Team has to be alert to all potential outbreaks, and investigate them accordingly. The Infection Prevention and Control Team have responded to a number of incidents, some of which involved contact tracing, over the last year. Contact tracing is arduous as our current IT systems do not allow this to be undertaken easily nevertheless staff and patient contacts are identified and assessed regarding risk of infection and vaccination/treatment provided as required.

6.1.5 Significant incidents and outbreaks are summarised below.

6.2 Monkey Pox

6.2.1 A UK resident returned from Nigeria in November 2019 with widespread lesions across his whole body at the time of travel. He flew to Heathrow airport and then travelled by bus to Exeter, where he lived with four other people.

6.2.2 A likely diagnosis of Monkeypox was made in primary care following consultation with the Medical Microbiology Dept and the patient was transported to hospital from his home in a HART ambulance. He was admitted to a negative pressure isolation room at the RD&E (Wonford) and strict isolation precautions applied during his progression through the hospital.
and once in his isolation room. Samples were sent to PHE Porton Down for overnight testing and the following day Monkeypox was confirmed.

6.2.3 PHE coordinated a contact tracing exercise given his travel history and presentation in primary care and advised on the infection control precautions required. Through this process it was agreed that the patient would be transferred to Guys and Thomas’s Hospital for isolation to release capacity on the Torridge ward should any of his local contacts develop symptoms and require isolation.

6.2.4 Post exposure vaccination was offered to RD&E and GP staff, household and ambulance crew contacts. 21 primary vaccines were administered over the course of two days as advised by PHE. The Infection Prevention and Control Team provided the clinics for this purpose on behalf of PHE.

6.2.5 A second dose of vaccine was offered to RD&E and ambulance staff to complete the course. This was accepted by 5 members of staff.

6.2.6 There were no further cases and the infected patient recovered well.

6.3 MRSA on NNU
A small outbreak of MRSA affecting three babies was identified on the NNU. Outbreak control measures were put in place including isolation of babies, parent screening and deep cleaning of the environment. No further cases were identified and babies are routinely screened weekly. No staff screening was undertaken at this stage. All babies recovered.

6.4 Seasonal Influenza

6.4.1 Every year Influenza circulates in the community. The Influenza season can range over any period of time between December and the end of April. Typically, Influenza A causes outbreaks most years and is the usual cause of epidemics. Influenza B tends to cause less severe disease and smaller outbreaks and the burden of disease is mostly in children.

6.4.2 The Trust has a Seasonal Influenza Management Policy which is reviewed annually to incorporate national guidance changes and other enhancements as necessary. This policy includes preventative measures such as staff immunisation, use of oseltamivir prophylaxis and measures to open a flu cohort ward if required.

6.4.3 The Microbiology Laboratory provides enhanced molecular flu testing during seasonal flu activity, including point of care testing which last year was available in the Medical Triage Unit, Paediatric Assessment Unit and Yarty Day case. This year POC was extended to the respiratory wards and the Emergency Department. This enables staff in to undertake testing themselves in key admission areas avoiding the inevitable delays associated with laboratory testing, supporting early diagnosis and treatment decisions, decision making about the need to admit and allowing more rapid isolation in either single rooms or flu cohort bays.

6.4.4 This reduces the exposure of other patients to influenza through early diagnosis and as a result contacts per case of positive Influenza have been greatly reduced from 3.75 contacts per case in 2017 to 1.13 this year.
6.4.5 In the 2017/18 season a total of 761 cases of Influenza were identified (314 Influenza A and 447 Influenza B). This was unusual as Influenza B is traditionally associated with much milder flu symptoms and mainly affects children. The increase in cases of Influenza B may have been partly due to a mismatch between the vaccination and the predominant circulating strain of Influenza B.

6.4.6 2018-19 saw a return to a more traditional picture, with 588 Influenza A cases and only 5 Influenza B making a total of 593 cases. Influenza A H3N2 was the dominant sub-type, which was included in the seasonal influenza vaccine.

6.4.7 A total of 345 Influenza cases were identified in the 2019/20 season (309 Influenza A cases and 15 B Influenza cases). Whilst the majority of cases were seen between December and April, a number of positive cases occurred in October (8 cases) and November (13 cases). 7 cases in October were associated with a single ward outbreak and at this point the national vaccination campaign had only just commenced therefore most patients on the ward had not been vaccinated at this stage.

6.4.8 Reducing risk to frontline staff through influenza vaccination was facilitated by peer vaccinators and Occupational Health Nurses. The Commissioning for Quality and Innovation (CQUIN) objective for vaccination uptake was that at least 80% of frontline health care workers should be vaccinated. The outcome of the influenza vaccine campaign can be found in section 15.

6.5 Norovirus

6.5.1 Norovirus is also predominantly a winter pathogen; however, norovirus infections can also occur in the summer months. Norovirus is extremely easy to transmit from person to person, even with excellent infection control practice, and outbreaks are frequently reported in semi closed settings such as hospitals, care homes, schools, nurseries, hotels and cruise ships.

6.5.2 Norovirus activity varies from season to season. Strain replacement events occur periodically among circulating norovirus strains and can coincide with higher than average levels of norovirus activity and increased outbreaks (Allen et al, 2014). However, since 2012/13 the dominant strain circulating worldwide has been the GII 4/Sydney 2012 strain which may explain the reduced impact in hospital over the last few years.

6.5.3 In 2019-20, there were no outbreaks in the Trust resulting in whole ward closure, although some single bay outbreaks were identified.

6.6 Staph aureus outbreak associated with ultrasound guided injections

6.6.1 Ultrasound guided steroid injections are a common invasive procedure which provides an injection of local anaesthetic and steroid into the joints. The steroid acts as an anti-inflammatory, which eases pain and reduces swelling.

6.6.2 Infection is a recognised risk from steroid injections; however it is noted as a rare complication. The literature notes that hand mediated transmission is the most common route of infection.
6.6.3 Three patients developed an infection in the site of ultrasound guided injections from a list which took place on 2\textsuperscript{nd} April 2019. A fourth patient was later also identified as having a healthcare associated infection (HCAI) from an ultrasound guided injection on a clinic list which occurred on 24\textsuperscript{th} April 2019.

6.6.4 Due to the time difference between the intervention and the patients presenting with symptoms the cluster wasn’t apparent immediately but once recognised control measures were immediately implemented and a formal investigation commenced. Duty of candour to the patients was fulfilled and the outcome of the investigation shared with those affected. A number of improvements in practice were identified and have been implemented. No further cases have occurred since.

6.6.5 The recognition of practices that were no longer in line with current guidance within this outbreak is likely to be present elsewhere in the Trust as joint injection is a very common procedure. To review this practice more broadly will require a significant investment in IPCT time.
7. **WATER SAFETY AND SPECIALIST VENTILATION**

7.1 The water utility supplying the Trust, South West Water, undertakes to provide a reliable supply of wholesome, safe water. It has been the function of the Water Safety and Ventilation Group (WS&VG) to provide assurance that the water, once within the Trust’s infrastructure, is safe and that risks from chemical and microbial hazards are minimised.

7.2 In healthcare, specialist ventilation is necessary in some areas both for the protection of patients and staff. Typically such areas would include operating theatres, endoscopy suites and certain treatment areas and special isolation rooms. There are also facilities where staff are protected by ventilation such as certain laboratory areas and decontamination suites.

7.3 In hospital, the most significant infectious risks from the water supply are infections caused by species of Legionella bacteria and other water borne organisms such as Pseudomonas and Stenotrophomonas. The latter two types of bacteria are usually only seen as a problem in high risk units (also referred to as Augmented Care Units).

7.4 Water outlets in the areas designated as “Augmented Care Units” in this Trust, namely the Intensive Therapy Unit, the Neonatal Unit, the Haematology Ward and the Renal Dialysis Unit and Ward are tested for Pseudomonas. These tests are carried out twice a year, and have been for over 5 years. Results for 2019/20 continue to show that nearly all water outlets in augmented care units are consistently negative. Occasional single outlets with a positive culture for low numbers of Pseudomonas are invariably negative after decontamination and retesting. A number of new outlets in high risk areas have been added to the testing regimen, which were not on the previous testing schedule, these include some outlets in ITU, haematology and paediatric oncology. Significant concerns are highlighted annually about the design and installation of water outlets in high risk areas. Of particular concern are the outlets on Yarty ward, housing some of the most vulnerable patients in the hospital. The sinks are too small, with flexible hoses and taps that are too close to the sink. This is a serious concern for contamination and transmission risk for Pseudomonas and increases the risk of Legionella colonisation. However, regular water testing remains reassuring that no patients are being put at immediate risk. However, the re-design of these outlets should be considered at the earliest opportunity.

7.5 The control of legionella in the water systems of large buildings, such as hospitals, is complex but relies primarily on good design, maintenance and running to specified standards, e.g. hot and cold water temperatures. All water outlets are flushed regularly to ensure that stagnation does not occur in outlets, and water temperatures are monitored to ensure that they are within prescribed limits, circulating hot water at least 60°C when leaving the heating unit and no less than 55°C at outlets, cold water less than 20°C. The performance of water systems is monitored continuously and reviewed by the WS&VG. Water temperature monitoring and flushing records are standing items on the WS&VG agenda.

7.6 A legionella risk assessment is undertaken by external contractors as advised in updated NHS guidance revised in 2016 (Dept of Health, 2016). Thereafter, risk assessments are conducted when they are required mainly following significant changes to water systems or installation of new systems. Any
problems identified in risk assessments are addressed by the estates department in a risk assessed timely way.

7.7 Where water systems do not meet engineering controls, additional controls may have to be introduced. In limited areas in the acute hospital, cold water temperatures can rise to above 20°C during periods of decreased use such as overnight. In these areas, the systems have the additional control measure of silver ions added to the water and regular monitoring by culture for Legionella species. There have been no untoward significant isolations of Legionella from water systems on the Wonford and Heavitree sites and silver levels have been satisfactory.

7.8 The Trust has safe water systems at the main sites at Wonford, Heavitree and in premises administered by the Trust. No hospital acquired cases of Legionella or other infection acquired from domestic or other water systems have ever been identified. In most areas this is maintained by normal control systems. Through a robust monitoring and risk assessment regimen in areas where baseline water temperatures cannot be maintained, additional controls have been introduced, which in combination with regular monitoring have been effective in controlling the Legionella risk.

7.9 Some Trust services are delivered in premises which are maintained by, and the water systems the responsibility of, other entities. These include Community Hospitals in East Devon which were the responsibility of the NHS Property Services (NHSPS). The WS&VG seeks assurance from the operators on the safety of water systems in the Community Hospitals which have RD&E patients and staff.

7.10 Audit visits undertaken by a Microbiologist, IPC Specialist Nurse and Estates’ Engineer from this Trust showed on-going issues with primary temperature control and multiple residual plumbing risks for Legionella growth. NHSPS have been proactive in tackling the plumbing risks, but most sites continue to have issues with maintaining primary thermal control. These sites include Exmouth, Sidmouth and Honiton which house vulnerable patients either as inpatients or attending for renal dialysis. Water testing at these sites routinely yields high or very high levels of Legionella, including Legionella pneumophila serotype I (the commonest cause of human Legionnaire’s disease). After some concerted efforts by all parties secondary biocidal measures have been installed at Exmouth and Sidmouth Hospitals, using copper/silver ions. Whilst issues have been identified at Honiton, the renal unit is served by a separate water supply that has shown consistently good performance, and ongoing work elsewhere in the hospital to tackle design flaws continues to be the preferred route of NHSPS.

7.11 Tiverton hospital, a PFI owned (IML), but an NHSPS leased building, built in the early 2000s and opened in 2005 and had issues early on with primary thermal control and Legionella growth. As a result Chlorine Dioxide is generated on site and added to the incoming water main to provide secondary biocidal control. Despite this secondary measure, routine testing revealed consistent growth of Legionella. The original hospital specification was for copper pipework, but it was built with plastic pipework. Plastic pipework becomes electrostatically charged and attracts a biofilm and it was believed that this was colonised with Legionella. This was compounded by a poor design with a long loop for hot and cold services meaning that hot water
became cold and cold water hot and leading to a loss of chlorine dioxide distally.

7.12 To mitigate these issues the Chlorine Dioxide level was increased leading to control of Legionella and negative counts. Water testing reported 3 months of consistently negative results before the Chlorine Dioxide level was reduced back down to normal. However, no significant remedial work was possible (improving primary flow or changing to copper pipework), and an on-going legal process is in place between IML and NHSPS to resolve this. Since returning to normal levels of Chlorine Dioxide Legionella has again been detected in the water system.

7.13 The RD&E have requested that Chlorine Dioxide levels are raised once again to an intermediate level, in line with NHSPS’s water safety plan. However higher Chlorine Dioxide levels may increase the risk of plastic pipe fracture, and sit above a DWI limit for water safety (although DWI guidance does not apply to hospital water). There is also a cost implication and currently NHSPS are reluctant to increase the levels. An alternative option for a two pump solution has also been suggested by us and rejected by NHSPS. Throughout 2019 - 2020 there were increasing leaks on this site from the plastic pipework which was failing at joints and also through pinholes failures which were appearing across the site. Concern was raised about potential leaks above inpatient beds and a full survey was carried out to identify these risk areas and to replace the localised plastic pipe with copper. The concerns around the remaining plastic pipework remained.

7.14 Escalation of these concerns (7.12-15) from WS&VG has led to executive level discussion between the organisations involved which has further led to an agreement by all parties that the plastic pipework throughout the site will be replaced with Copper pipework. It is proposed that these works will also remove little used outlets throughout the site and in addition, any thermostatic mixing valve currently installed in a non-patient area will be assessed for removal. Planning and design for this project began in the Autumn of 2019 with a view to starting work in May 2020 however this start date has been postponed by the Trust because of the COVID-19 situation. This work is due to start in the Summer of 2020. The plan to re-plumb the entire hospital in copper and to improve the design and flow of water is ambitious and will require skill and good patient management throughout. The Trust has been involved in the design and installation process from the start.

7.15 The ventilation systems in the Wonford and Heavitree sites are maintained by the Trust Estates’ Department. They are regularly inspected by external specialist contractors for compliance with the standards in the Health Technical Memoranda (HTM) 03-01 “Heating and ventilation of health sector buildings”.

7.16 Significant concerns have been raised about the ventilation capabilities in the PEOC theatre suite. Air handling units (AHUs) installed at the time of theatre build were unable to achieve the minimum air changes required at the point of installation providing 11 air changes per hour (ACH). At installation they should have provided 15 ACH, and the standard now is 25 ACH. A project to replace these units is under way, but with a plan that the units will achieve 20 ACH. This remains below the current HTM and would put our position as a national leader in complex revision surgery at risk. Identification of an increase in surgical site infections across orthopaedics is concerning and
achieving minimum ventilation standards is paramount. The issue lies with the design of the theatre suite itself, not the new AHUs. To rebuild the theatres to achieve the minimum standard is likely to be extremely costly.

7.17 In the Community Hospitals some of the ventilation plant is relatively old. The WS&VG has advised that replacements should be planned and that this requirement should be taken account of when making strategic plans for the location of theatre facilities and services in the community. Current reports indicate that theatre ventilation in the community theatres is fit for purpose.

7.18 Theatre 10 remains a concern due to the temporary nature of the structure that is now aging significantly. There are significant concerns that the theatre is barely fit for purpose leading to a restriction in the types of surgery carried out in the theatre. This theatre should not be viewed as a long term prospect and plans should be in place for its replacement.
8. HAND HYGIENE AND ASEPTIC CLINICAL PROTOCOLS

8.1 Hand hygiene

8.1.1 Previous annual reports have described our approach to maintaining high standards of hand hygiene. This approach is embedded in the annual work programme and includes:

- Point of care alcohol hand rub
- Awareness posters
- Patient involvement and feedback
- Observational audit of clinical staff compliance with the 5 moments for hand hygiene, with feedback on performance.

8.1.2. Trust wide compliance results as reported by ward hand hygiene auditors from observational audits can be seen at Appendix B.

8.2 Aseptic Clinical Protocols

8.2.1 The principles of asepsis are included on the Trust induction programme for new staff. Clean and aseptic technique principles are also provided as part of nursing and medical staff education, with assessment of competency made in relation to intravascular drug administration, intravascular cannulation and venepuncture and other invasive procedures. Particular emphasis continues to be placed on aseptic procedures when inserting and managing the on-going care of central venous catheters as described below. Nursing staff who manage central line care in specialist areas such as haematology, oncology and renal dialysis have their competence reassessed annually.

8.2.2 Peripherally Inserted Central Venous Catheters (PICCs) are used for lengthy intravenous treatments, when otherwise patients would have multiple peripheral vascular devices, thus reducing pain and discomfort. PICC insertion is almost always undertaken by a member of the Vascular Access Team, a team of specialist practitioners highly skilled in the procedure, and is always undertaken to a high standard using an aseptic technique. This has resulted in consistently low levels of infection for a number of years.

8.2.3 On-going care of the line is managed by the ward staff and therefore workshops and ward based training sessions were implemented in 2008-9 and have continued ever since with good attendance.
9. DECONTAMINATION

9.1 Arrangements

9.1.1 The Decontamination Operational Group (DOG) is responsible for monitoring decontamination arrangements and compliance overall and reports to the Infection Control and Decontamination Assurance Group. It is chaired by the Trust Decontamination Lead, who is one of the Joint Directors of Infection Prevention and Control, currently the Consultant Microbiologist.

9.1.2 The Trust has a hospital sterilisation and decontamination unit (HSDU), and a centralised endoscope decontamination unit. Centralisation of decontamination, wherever possible, ensures that staff are well trained and that processes are controlled and auditable.

9.2 Audits of Decontamination Processes

9.2.1 The (HSDU), which reprocesses surgical and other reusable invasive instruments, conduct regular internal audits to ensure their compliance with ISO13485:2016 and Medical Device Directive 93/42/EEC. In addition, they are externally audited once a year by a notified body and also received an unannounced external audit by the notified body in recent months. Both audits gave the opportunity for the HSDU to showcase the high quality service it provides on a daily basis and its robust adherence to processes detailed in local and national guidance. A number of recommendations were made following the audits and these have been actioned.

9.2.2 ProReveal is a sensitive fluorescence based test to detect residual protein on instruments that have been through a washer-disinfector.

HTM 01-01 (2016) requires residual protein levels to be below 5μg per instrument side. It goes on to state ‘SSDs should not view the 5μg limit as a single pass or fail, but rather use it as a way of working towards and below this value, that is, as part of trend analysis and a quality assurance system whose aim is to monitor not just the cleaning efficacy of washer-disinfectors but also the instrument journey leading up to that stage – in other words, ensuring results are being monitored and actions are being taken based on these results’.

We currently have over 12 months of data now which details a gradual reduction in residual protein levels over this time. Given there is still room for improvement, there continues to be a focus on reducing the time taken for instruments to return to HSDU from Theatre areas. A business case has been submitted to procure the appropriate levels of manpower resource, and potentially an additional vehicle, with the aim of improving transit time from Theatre to HSDU.

9.2.3 Further investment has been secured by the HSDU for the installation and commissioning of new sterilisers to replace two of the existing older models. The new sterilisers now have integrated ‘clean steam’ generators. A further two more sterilisers will be similarly replaced this coming financial year as part of a 3-year rolling programme to eventually replace all six sterilisers.

9.2.4 Decontamination of flexible endoscopes is undertaken centrally in the Endoscopy Unit. The Endoscopy Unit is inspected to the standards
developed by the Joint Advisory Group on Gastrointestinal Endoscopy (JAG). Currently the decontamination aspects of JAG accreditation are met.

9.2.5 Decontamination of lower risk patient equipment (i.e. non-invasive equipment such as commodes, monitors, infusion pumps) is audited in two ways: It is included as part of the Care Quality Audit Tool and as part of the CCW (Catering, Cleaning and Waste) web based audit system (refer section 10 page 30).

9.2.6 There is a central unit for the inspection and decontamination of powered alternating pressure relieving mattresses and this is managed by the Medical Device Library, who check every mattress returned for cover integrity and leakage ensuring that any damaged mattresses or damaged mattress covers are replaced.

9.2.7 There is a program of audits linked to policies which are produced and overseen by the DOG. The audits are reviewed at the regular meetings

9.3 Decontamination related projects

9.3.1 Some equipment is hard to decontaminate reliably because of the nature of its design and construction. It may for example have small lumens which are hard to access for cleaning or a rough surface as in some orthopaedic reaming tools. A list of hard to decontaminate equipment is maintained and reviewed by DOG. Over the years by replacing with single use equipment, or alternative devices the list has been reduced substantially. However there remains a small core of difficult to clean devices for which no economically viable alternative has been identified. This list is now reviewed annually rather than biannually.

9.3.2 Lead (Pb) hands - due to risk of contamination these will need replacing with safer alternatives. Around 20 are thought to be in current circulation and all will need replacing. Samples of alternative products have been reviewed by a number of different Theatre areas and a preferred option has been identified for use going forward.

9.3.3 Ceasing the Processing of Screws & Implants Update (Deadline 14.8.18). Whilst there has been excellent progress in this area over the past twelve months, some items are still not available pre-sterile – these mainly relate to Max-Fax procedures. These will continue to require processing until a suitable supply becomes available. The potential removal of screw caddies on surgical instrument sets continues to be another area of focus and discussion going forward.

9.3.4 Decontamination Equipment Planned Replacement Programmes. The CRIC for the planned replacement of the Automated Endoscope Reprocessor in Tiverton is due to be submitted by Aug 2019.

9.4 Policies and procedures

9.4.1 During 2019/20 all relevant policies were in date and revision was not required.

9.5 Linen Decontamination Unit
9.5.1 The Linen Decontamination Unit (LDU), previously known as ‘the laundry’, at the Royal Devon & Exeter Hospital is one of the largest NHS Healthcare laundries in the country.

9.5.2 The overriding regulatory documentation for the LDU is the Health Technical Memorandum HTM 01-04 – Decontamination of Linen for Health and Social Care. HTM 01-04 supersedes earlier versions of laundry guidance including HSG (95)18 and most recently the Choice Framework for local Policy and Procedures (CFPP) series, which was a pilot initiative by the Department of Health.

9.5.3 The Health Act Code of Practice recommends that healthcare organisations comply with guidance that outlines the requirement for laundering establishments, who provide linen to the Healthcare and Social Care sectors, to work to one of two standard requirements. These are: Essential Quality Requirement (EQR) and Best Practice (BP). EQR is the minimum working standard required. All establishments must also have plans in place to attain the BP standard and this will undoubtedly be the desired requirement for Acute Trusts and other healthcare providers when purchasing new laundering services in the future.

9.5.4 In October 2017, the LDU met its plan to achieve Best Practice. The LDU was assessed by an external auditor and as a result, registered against the provisions of the British Standard BS:EN:14065:2016 – Laundry Processed Textiles – Biocontamination Control System. Registration lasts for 3 years and is maintained by two external annual surveillance visits followed by a full external audit at year 3. The LDU successfully passed their first and second annual surveillance visit in both September 2018 & 2019.

9.5.5 In order to achieve and maintain registration, the LDU has implemented a Risk Analysis Biocontamination Control (RABC) System. Part of the RABC system requires the risk assessment of any hazard within the laundering process which could affect the biocontamination quality of textiles. Control measures and process controls have been implemented with the main aim of decontaminating used textiles and controlling the risk of re-contamination, throughout the process until dispatch back to the customer. All control measures and processes are continually internally audited by in house staff.

9.5.6 Decontamination is achieved via Critical Control Points (CCP) during the wash stage adopting the time and temperature standards of HTM 01-04. These CCP’s are verified by a real time monitoring system which will hold the wash process and prevent release of the textiles if the critical temperature is not reached.

9.5.7 The monitoring system itself is validated using a Data Logger which is put directly into the machine, logging the actual temperature at each stage of the wash process. The process is also verified via monthly service visits from the detergent supplier, who audit and correct all aspects of the washing process, including temperatures, water testing and chemical dosing.

9.5.8 The RABC system is verified throughout the LDU by a series of Control Points (CP) where control processes are put in place to minimise re-contamination. These are audited and verified by evidence based systems and document control. These include physical measures such as hygiene controls and protective footwear, systems such as a KanBan style use of linen handling containers at the Washer Extractors or dip slide testing and
documented evidence such as cleaning schedules, cage sanitisation records and dip slide test results.

9.5.9 The RABC system has an overall main emphasis on the pre-requisites in place, to enable the LDU to implement these controls and systems. A re-requisite programme identifies the physical attributes and measures what we already have in place. This, along with the bio-contamination Risk Plan, helps us implement the control measures required to maintain the system. Pre-requisites include such elements as having the correct type of building, having physical barriers between the used and clean linen areas, adequate ventilation systems, hand washing facilities, cleaning regimes and so on.

9.5.10 An RABC system operates in tandem with a quality system. Therefore, in putting in place an RABC system, we are also building upon the LDU's quality system currently in place. All processes have detailed Standard Operating Procedures (SOP) work instructions and all staff are trained as per the SOP for the process they are carrying out. This includes quality checks at all stages of the finishing section, linen inspections, packing & loading in safe quantities and the covering of all cages prior to transit.

9.5.11 All of the above ensures that the LDU receives, decontaminates, cleans, folds and packs over a quarter of a million articles, per week, back to the RD&E NHS Foundation Trust, plus other Acute NHS Trusts, Community Trusts, other Healthcare and Non-healthcare establishments throughout the Southwest Peninsula area.
10. **CLEANING SERVICES**

10.1 **Management Arrangements**

All cleaning services continue to be managed in-house with the Management structure remaining unchanged. The management team continually strive to maintain and deliver a quality Domestic Service to the Trust.

10.2 **New Developments**

10.2.1 The Domestic Services Department continues to work closely with Ward Housekeepers. The Management team are in regular daily contact and attend a Ward Housekeeper Forum on a Bi-monthly basis. A structured plan of visits has been implemented with each ward now having a dedicated point of contact at Supervisory and Management level.

10.2.2 The CCW (Catering, Cleaning and Waste) web based Audit System used with I-pads continues to be used for the audit process and gives opportunities for Matrons and other stakeholders to directly review the cleaning scores for their area of responsibility and now provides a more robust, efficient and informative service.

10.2.3 Domestic Services continue to use hydrogen peroxide decontamination methods as part of the daily cleaning regime and in the annual Deep Cleaning programme of 2019. Following a programme of replacement new and improved second generation units have been purchased to replace the ageing fleet of GlossAir machines previously in use. Additional units have also been purchased and are in use across the Community in-patients sites.

10.2.4 In order to meet the environmental cleaning demands of an increasingly busy hospital during the winter pressures season, Domestic Services added additional resource to the Specialist Cleaning Team in a bid to meet the increase in activity. His proved beneficial and helped improve patient flow in key areas such as the Acute Medical Unit and Emergency Department.

10.2.5 During the course of 2019 and early 2020 the Domestic Services Team worked alongside the MyCare implementation Team to build the Environmental Services element of MyCare which promises to revolutionise the way in which cleans are recorded and how work is allocated to staff. The Covid-19 crisis has however caused this work stream to be postponed Trust wide.

10.3 **Monitoring Arrangements**

10.3.1 Monitoring continues to be undertaken in accordance with the National Specification for Cleanliness in the NHS (2007). The Facilities based independent Audit Team use the NHS approved CCW monitoring system which was successfully introduced during 2006 and has now been upgraded in its functionality.

10.3.2 A team of dedicated monitoring officers (1.46 WTE) continue to undertake & record technical monitoring on a weekly basis as required by the National Specification. The monitoring of waste streams is also included in their daily
audits. The monitoring team are supported by the Ward Housekeepers (30 WTE) at ward level and in theatre areas (i.e. Main Theatres and PEOC Theatres), and they undertake technical monitoring of the environment and patient equipment cleaning.

10.3.3 Areas of domestic cleaning failure are recorded on a rectification sheet which is used by the Ward Housekeeper or duty Domestic Supervisor to action and follow up.

10.3.4 All ward Matrons and/or Departmental Heads are e-mailed a list of the cleaning results at the time of audit, this includes environmental and patient equipment cleaning failures. When rectified, the Ward Housekeepers and/or Matron e-mail a response back to the monitoring team so as to close the audit loop.

10.3.5 Collated results of monitoring are reviewed on a monthly basis by the Audit Team and the results escalated as appropriate. A Bi-monthly Audit Review Group meeting also takes place which is attended by the Lead Nurse/Director Infection Prevention and Control. Action plans are implemented for any wards or departments failing to reach the required standards, as laid down by the NPSA.

10.3.6 A quarterly management audit is undertaken by a multi-disciplinary team, which includes a Monitoring Officer, a Matron or nominated nursing representative, a member of the Estates Department and an Infection Prevention and Control Nurse Specialist and the results of this, presented to the Infection Control Operational Group, are used to monitor the technical audits undertaken on a weekly basis. The Ward Housekeepers continue to be actively involved in these audits.

10.3.7 The annual Patient Led Assessment of the Care Environment (PLACE), which was undertaken in November 2019 by groups including patient representatives, recorded a 98.58% score for the Trust in the cleanliness section. This compares with the National average of 98.5%. This national assessment process is now well established, having replaced the Patient Environment Action Team (PEAT) several years ago and its main aim is to evidence a greater degree of transparency and patient involvement in ‘cleanliness’, ‘food’, ‘privacy, dignity and wellbeing’ and ‘condition, appearance and maintenance’.

10.3.8 The assessment was unannounced so ward and departmental areas were not informed in advance that their area would be visited and assessed on the day. Areas to be visited were drawn at random by an external validator from Musgrove Park Hospital Taunton.

10.4 Budget Allocation

10.4.1 It is a rolling budget. Any additional requirements or new areas are funded by the division to which they relate. Preparation of capital and revenue investment cases and costings are supplied by the Domestic Services Manager or Facilities Service Manager.

10.4.2 The CCW programme is now being successfully utilised and significant amounts of data relating to current resources and the recommended minimum frequency of clean requirements have been recorded.
10.4.3 The output data is used in the re-design of Domestic Services and their delivery in order to meet the ever changing needs of the Trust.

10.4.4 Call-off funding for a dedicated infection outbreak cleaning team continues to be allocated on an annual basis. The positive impact of this funding is well recorded, e.g. improved response times for organising outbreak and specialist cleaning and the turnaround time for re-opening a closed ward.

10.4.5 The Specialist Cleaning Team continue to operate during daytime hours until 10.00pm, seven days per week, whilst the night shift operates with two dedicated Specialist Cleaning Team members throughout the week. The site management team liaise with these staff and this continues to be a positive example of collaborative working.

10.4.6 There continues to be a swift ‘turn-around’ time for the terminal cleaning of side rooms, bed spaces or even bays that have been vacated by infected patients. The number of cleans required has increased again in the last year, with an average of 1289 per month (the 2018/19 average was 1170, 2017/18 average was 1121, with 2016/17 being 981 per month. The number of cleaning requests per month peaked during December 2019 when a record 1583 individual cleans were completed.

10.4.7 The exceptional demand for cleans has consequently meant that additional, resource has been allocated to the Specialist Cleaning Team over the past 12 months. Figure 7 details the increase below:

Figure 7 – Increase in specialist cleaning requests.

10.4.8 Additional non-recurring money continues to be allocated each year to the Deep Cleaning programme which was scheduled to take place over March – November 2019. Deep cleaning again took place during daytime hours and a planned, co-ordinated approach to cleaning individual bays and side rooms was progressed over a period of either two or three days, depending on the size of the ward. Due to unprecedented Trust wide capacity pressures the completion proved fragmented with several interruptions and a large number of areas remaining uncompleted.

10.4.9 Funding continues to be allocated for 2020/21 for the Deep Cleaning programme to continue within all in-patient and some outpatient areas. The
Infection Prevention and Control Team, nursing services, Site Management Team and Domestic Services have worked together to produce a programme of cleaning for the next deep clean, which was scheduled to commence in April 2020. However the outbreak of the Covid-19 crisis has again placed the success and completion of the programme in grave doubt.

10.5 Clinical Responsibility

10.5.1 The Assistant Directors of Nursing, Lead Nurses, Senior Nurses and Matrons have responsibility for ensuring that clinical care is provided in a clinically hygienic environment. They work closely with their Ward Housekeeper, the Domestic Services Supervisors, the Domestic Services Manager and the Facilities Service Manager to ensure that standards are maintained.

10.6 Clinical Access

10.6.1 Access to the clinical areas is made during the day time in in-patient areas and in the evening or at night in outpatient or day case departments - this minimises disruption to patients and clinical staff.

10.6.2 The re-design of the times when these outpatient or day case departments are cleaned has paid dividends and as expected, late afternoon / evening cleaning now consequently provides a more robust infrastructure to support ad-hoc specialist / outbreak cleaning requirements during late afternoon/ evenings, particularly when we have outbreak situations, e.g. Norovirus.

10.7 User Satisfaction Measures

10.7.1 In-patient satisfaction surveys for both food and cleaning services continue to be distributed and the data collated. The Ward Housekeepers audit the meal service at ward level whilst the monitoring team continue to audit within the Catering Department.

10.8 Patient Equipment Cleaning

10.8.1 The daily cleaning of patient equipment is undertaken by the Domestic Assistant at ward level, in accordance with the Minimum Frequencies of Cleaning requirements for patient equipment. Between uses on multiple patients, the responsibility for cleaning patient equipment rests with the nursing team.

10.9 Training

10.9.1 Domestic Services Management Team continue to review robustly the working practices of the domestic staff at ward level to ensure that a methodical approach to their daily work is being applied.

10.9.2 All newly appointed Ward Housekeepers continue to be provided with specific induction training from a Facilities perspective, which includes the cleaning and decontamination of patient equipment, deep cleaning, etc.

10.9.3 Bespoke training sessions are now in place for those staff members who require additional refresher training. Regular daily Communication Cell
meetings also afford a further opportunity to provide domestic staff with additional information regarding training and their on-going development.

10.9.4 Domestic Services continue to update and define the local induction pack for new starters to ensure they are competent in their role when cleaning in both clinical and non-clinical areas.

10.9.5 A cleaning manual is issued to all domestic service staff based on the national NHS Cleaning Manual. This incorporates a self-assessment training needs analysis tool which was evaluated by Domestic Services Supervisors to identify initial and refresher training needs for staff. This links into core competencies for staff and the Knowledge and Skills Framework.

10.9.6 The annual PDR process for domestic staff also provides an opportunity to undertake an annual competency check to ensure staff are aware of the correct cleaning processes and where appropriate, remedial action and refresher training can be undertaken. Opportunities for personal development are also discussed.
11. ANTIMICROBIAL STEWARDSHIP

11.1 Summary of key issues / emergent themes and achievements

11.1.1 Antimicrobial stewardship (AMS) optimises the treatment of infection and minimises the associated collateral damage such as the emergence of resistant organisms and *Clostridium difficile* infection (CDI). It is recognised as one of the key components of infection prevention and control.

11.1.2 Antimicrobial stewardship remains a national priority and ambitious targets have been set to reduce antimicrobial consumption, improve prescribing documentation and to reduce bloodstream infections (which may follow inappropriate antimicrobial prescribing), improve stewardship of antifungal agents and recognition of urinary tract infections and surgical prophylaxis.

11.1.3 There have been significant changes to the antimicrobial stewardship team in 2019/20:

- Dr. George Trafford and Dr. Jennifer Poyner have joined the team, both assisting Dr. Marina Morgan with antimicrobial stewardship. Dr. Poyner has special responsibility for the community and is visiting local GP groups to provide educational updates.
- Hazel Parker has left the role of antimicrobial stewardship pharmacist and started her clinical fellowship; she has a clinical role within microbiology.
- Hannah Burnett and Sally Tipping will job share the role of antimicrobial stewardship pharmacist, at 1.12 FTE.
- With CQUIN funding, Caroline Beck, pharmacy technician was employed (0.4 FTE) for 6 months to assist with auditing.

11.1.4 The Antimicrobial Stewardship Group (ASG), which oversees the development and implementation of the Trust annual Antimicrobial Stewardship Programme of Work met three times over the year, and was quorate on each occasion. The fourth meeting was cancelled due to COVID-19.

11.1.5 This year stewardship activities have focused on measures to support the appropriate use of antifungals, develop antimicrobial stewardship for the new electronic patient record system and recommence antimicrobial review rounds.

11.1.6 National antimicrobial stewardship CQUIN targets were in place in 2019/20 to encourage appropriate use of antifungals. The trust had to:

- To produce a Trust wide antifungal policy
- To form an antifungal stewardship team and start antifungal stewardship rounds
- Complete a gap analysis of fungal diagnostic tools in the Trust
- Audit of antifungal stewardship team ward rounds that will review patients on antifungal agents at 24, 72 hours and 7 day intervals.

The Trust has completed all 4 quarters. There were two local CQUINs looking at urinary tract infection (UTI) diagnosis and treatment and colorectal antibiotic prophylaxis. Whilst we did not take part in these two CQUINs baseline audits were carried out; CQUIN compliance for colorectal antibiotic prophylaxis was 98.6%. CQUIN compliance for UTI diagnosis and treatment...
was only 18% due to our high use of dipsticks in diagnosing which is no longer recommended practice.

11.1.7 The Trust is introducing a new electronic patient record and electronic prescribing system (MyCare). The Antimicrobial stewardship team have been heavily involved to ensure antimicrobial stewardship is included in the system; hard stops, ARK trial criteria, mandatory durations and indications, restricted formulary, antibiotics within order sets and reviewing antimicrobial prescriptions. An antimicrobial stewardship package has also been designed to flag patients to prescribers that have issues with their antibiotics and tabulate all antimicrobial monitoring on one page.

11.1.8 An outpatient parental antibiotic therapy (OPAT) service is in the process of being set up in collaboration with the Antimicrobial stewardship team, Aseptic services and the acute medical team. The service’s aim is for patients to receive antimicrobial therapy out of the acute hospital setting, leading to a better experience for the patient and freeing up bed capacity for the hospital.

11.1.9 Antimicrobial guidelines continue to be reviewed on a rolling programme and as new treatment evidence is released. Baseline assessment tools (BATs) are carried out on all new NICE guidance.

11.1.10 Antimicrobial Stewardship education sessions have been provided for new clinical staff at Trust Induction, Exeter Medical School, Infection control link nurses, pharmacists and non-medical prescribers.

11.1.11 Throughout the year, the intravenous antimicrobial supply chain has been fairly stable with minimal interruption to supplies. Trust use of Intravenous Chloramphenicol has been reduced, due to increasing cost and removed from most respiratory guidelines.

11.1.12 The Trust wide antimicrobial prescribing quality improvement project continues with a 95% target for five indicators which include:

a) documentation of a duration and indication on the drug chart;
b) antimicrobial guideline compliance;
c) documentation of an antimicrobial plan in the medical notes between 24-72 hours;
d) and appropriate allergy documentation on the drug chart.

The conclusion of the 24-72 hour review and ARK category has been audited. Standards of prescribing have been high but not constantly meeting the 95% target. There have been several meetings with Assistant Directors to try and find a way to improve these figures.

11.1.13 World antibiotic week (18th–22nd) and European antibiotic awareness day (18th) took place in November 2019. The stewardship team used several initiatives to raise awareness including: a stand in the staff canteen with information for patients and healthcare workers; information on Trust intranet; antimicrobial audits were carried out (by pharmacists).

11.1.14 The Trust is still enrolled in the ARK (Antibiotic Review Kit) study. This is an NIHR-funded step-wedge trial which aims to substantially reduce antibiotic overuse through better “review and revise” decisions. The antibiotic review kit
is available across the entire Trust and the principles have been designed into
the new electronic prescribing system (MyCare).

11.1.15 The antimicrobial stewardship team continue to work with other local Trusts’
stewardship teams (Devon Antibiotic Stewardship Group for example) and
Primary Care to strengthen collaboration and to standardise guidelines and
practice.
12. AUDIT

12.1 Clinical Audit

Audits are undertaken to identify areas for improvement in practice and to determine compliance with policy. All audit findings and associated recommendations have been presented to the Infection Control and Decontamination Assurance Group (ICDAG). Any action plans are implemented and monitored by Divisional Governance Groups or the ICDAG, whichever is more appropriate.

12.2 Environmental Audit

As reported in section 10 (page 30), cleanliness standards audits are undertaken monthly and are validated quarterly by a team which includes infection prevention and control nurses, where possible, matrons. The audit assesses both environmental and patient equipment hygiene and overall shows high standards of cleanliness. Where any problems are identified, these are highlighted immediately for rectification by either the housekeeping team, the ward matron or the estates department depending on the nature of the issue.

12.3 NHS Premises Assurance Model (NHS PAM)

12.3.1 The NHS PAM is a management tool that provides NHS organisations with a way of assessing how safely and efficiently they run their estate and facilities services. It is a basis for:

- allowing NHS healthcare providers to assure Boards, patients, commissioners and regulators on the safety and suitability of estates and facilities where NHS healthcare is provided
- providing a nationally consistent approach to evaluating NHS estates and facilities performance against a common set of questions and metrics
- prioritising investment decisions to raise standards in the most advantageous way

12.3.2 The latest full assessment using NHS PAM undertaken by the Trust was completed in March 2019 and did not identify any high level concerns or risks. Overall the trust achieved a Good rating for the PAM assessment. Some moderate risks remain around policy gaps, and the lack of risk assessments and action plans in some areas. The revised PAM assessment document was published in February 2020 and is not as great a change from the previous version as anticipated. A further assessment of estates and facilities services will be undertaken in 2020 using the latest version.

12.3.3 Areas of improvement identified through the PAM Assessment are recorded and reviewed through the Estates and Facilities Governance Groups.

12.4 Patient Led Assessment of the Care Environment (PLACE)

PLACE assessments provide motivation for improvement by providing a clear message, directly from patients, about how the environment or services might be enhanced. The number of patient involved must be at least equal and preferably greater than the number of staff on the team. Trust Governors are also involved. Staff, governors and patients are trained prior to the
assessment process which involves the use of standard assessment tools. Two elements of PLACE are particularly relevant to infection prevention and these are cleanliness and condition, appearance and maintenance of the premises. Refer section 15.8 for results.

12.5 Antibiotic Prescribing - also refer section 11.

12.5.1 Audit and surveillance of antibiotic use and prescribing is undertaken and monitored through the Antimicrobial Stewardship Group and co-ordinated by the antimicrobial pharmacist. Compliance is reported through to divisions and individual wards and specialties and Trust wide compliance is contained in the Infection Control Performance Dashboard Appendix B.
13. TRAINING AND EDUCATION ACTIVITIES

13.1 Induction and Update Training for Trust Staff

13.1.1 A blended learning approach continues with the provision of both face to face training and e-learning for clinical staff has continued.

13.1.2 A link nurse training course was delivered in the first quarter for new link nurses/practitioners and quarterly updates have provided for existing link nurses/practitioners.

13.1.3 Additional education is provided on a one to one basis during routine clinical visits by the Infection Prevention and Control Team and in response to patient specific clinical enquiries from wards and departments.

13.1.4 The Antimicrobial Stewardship Lead has taught Antimicrobial Stewardship to medical students, junior doctors, and GPs, and published on the quality of antimicrobial prescribing.

13.2 For Infection Prevention & Control Specialists

13.2.1 All members of the infection prevention and control team, including the Joint DsIPC, are members of the Infection Prevention Society (IPS). Members of the team attend South West branch meetings which provide the opportunity for update and networking and provide evidence for revalidation of their registration. All members of the team receive specialist journals as a benefit of membership which also aids development.

13.2.2 The infection control doctor (ICD) has a licence to practice which is subject to revalidation by the General Medical Council and is annually appraised. He is a member of the Infectious Diseases Society of America (IDSA), Healthcare Infection Society (HIS) and the Royal College of Pathologists. He participates in the College’s continuing professional development scheme. His annual continuing professional development plan includes infection control. The ICD lectures on the Specialised Ventilation in Healthcare Premises course held annually in Leeds, which he has previously attended in full.

13.2.3 Representatives of the nursing team attended the IPS Annual Conference, which provides an excellent scientific programme and the opportunity to network with other specialists.

13.2.4 Three members of the team continue with their studies toward a Post graduate diploma in Infection Control.

13.2.5 The Antimicrobial Pharmacists are members of the pharmacy infection network (PIN) and the Southwest Regional Antimicrobial Pharmacist Group which provides opportunity to share good practice and to network.

13.2.6 Hannah Burnett, Antimicrobial Stewardship Pharmacist, has completed her independent non-medical prescribing course, allowing her to prescribe and manage patients on antibiotics.

13.2.7 Sally Tipping, Antimicrobial Stewardship Pharmacist, is a member of the British Society for Antimicrobial Chemotherapy (BSAC) council.
13.2.8 The Antimicrobial Stewardship Lead and Consultant Microbiologist is a member of the South West Regional Microbiology Group, the Infectious Diseases Society of America the British Society of Antimicrobial Chemotherapy, Chair of the Microbiology Sub-committee of the Association of Clinical Pathologists and Microbiology Audit lead for the Royal College of Pathologists, all of whom support continuous professional development for antimicrobial stewardship (AMS).
14. **POLICIES AND GUIDELINES**

14.1 The Trust has a range of policies and guidance documents required under the Code of Practice. Policies and guidance are subject to periodic review, update if required and annual compliance monitoring. From October 2016, following the transfer of community services any policies due for review have been updated to take into consideration community services requirements. This process has been accelerated during 2017/18 by bringing forward the review of additional policies that had not yet reached their expiry date to expedite the inclusion of community services requirements. All policies have now been aligned to be applicable to both community and hospital settings.

14.2 A schedule for policies and guideline revision/development is included in the annual programme.

14.3 All policies and guidelines are available intranet and on the Trust Website and therefore are available to all members of the public as a source of information.
15. **TARGETS AND OUTCOMES**

A range of outcome measures are reported on the Infection Control Dashboard (Appendix B). Outcomes of particular importance are also reported below:

15.1 **MRSA Bacteraemia**

15.1.1 The MRSA bacteraemia objective is to maintain a zero tolerance approach to avoidable MRSA bacteraemias. There have not been any cases of MRSA blood stream infections in 2019-20.

15.2 **MSSA Bacteraemia**

15.2.1 Ninety two bacteraemias were identified in the laboratory in 2019-20. Of these, 23% were identified from specimens taken on or after day three of admission meaning that the remainder, 77%, were acquired in the community, not hospital.

15.2.2 The annual rate of Trust apportioned MSSA bacteraemias is 8.13 per 100,000 occupied bed days which is lower than in 2018-19. It is slightly higher than the national rate of 7.97 but lower than both the regional rate of 9.98. (Field Epidemiology South West, Public Health England, 2020)

15.3 **E.coli Bacteraemia**

15.3.1 We reported and investigated three hundred and ten E.coli bacteraemias to the PHE data capture system. This is a slight reduction on the total number reported in 2018-19. 16% of these were hospital onset i.e. were identified in specimens taken on or after day 3 of admission to hospital.

15.3.2 The rate of hospital onset cases is 19.37 per 100,000 occupied bed days which is an increase on the previous year but remains below the regional rate (Field Epidemiology South West, Public Health England, 2020).

15.4 **Clostridium difficile infection**

15.4.1 The nationally set objective for Clostridium difficile infection was to have no more than 31 Trust apportioned cases and to investigate each case and conclude whether there were any lapses in care that caused or contributed to the infection. The target of 31 was an uplift of just 1 case on the previous year target despite the significant changes to the definitions (refer section 4.5). Applying the new definitions to previous years data we anticipated a significant increase in the number of cases for 2019-2020. This prediction proved to be true with 33 cases meeting the definition of being identified on or after day three of admission, against a total of 16 in 2018-19. However, investigations concluded that there were no contributory lapses of care in all but three cases where inappropriate antimicrobial prescribing was identified as a contributory factor.

15.4.2 The rate is 12.78 cases per 100,000 occupied bed days and this remains below the regional and national rate below the regional and national rate (Field Epidemiology South West, Public Health England, 2019)
15.5 Surgical site infection surveillance results

15.5.1 Hip replacement revision surgery

The validated inpatient and readmission rate of surgical site infection for orthopaedic hip replacement and revision surgery is 1.1%. Unusually, this is above the national benchmark for participating hospitals in the Surgical Site Infection Surveillance Service of Public Health England of 0.4% and reflects a high infection rate in Q1. This rate reflects 9 infections from 864 operations over 12 months. As with all orthopaedic surgeons, the hip team takes an increase in infection extremely seriously and focused on determining why this increase had occurred although no single cause was found. A general strengthening of infection prevention measures at all stages of the pathway for hip patients resulted and the rate reduced with a 0% infection rate achieved in Q4.

15.5.2 Knee replacement/revision surgery

The validated inpatient and readmission rate of surgical site infection for orthopaedic knee replacement and revision surgery is 1%. This is more than the previous year and is above the national benchmark rate of 0.3% for all participating hospitals in the Surgical Site Infection Surveillance Service of Public Health England. This rate reflects 7 infections from 675 operations over 12 months. Together with the hip team, focus was placed on all parts of the pathway and in Q4 a 0% infection rate was achieved.

15.5.3 Spinal surgery

The validated inpatient and readmission rate of surgical site infection for spinal surgery is 1.1%. This rate is the same as the national benchmark rate for participating hospitals in the Surgical Site Infection Surveillance Service of Public Health England. This rate reflects 8 infections from 699 operations over 12 months. The infections occurred in very complex spinal surgical cases and were not associated with a single surgeon.

15.6 Flu Vaccination of Frontline Healthcare Workers

15.6.1 A 78% uptake of vaccination was achieved across the Trust which is a 2 percentage point increase on the previous year. 80% uptake was achieved in acute hospital settings meeting the CQUIN target.

15.6.2 At the time of writing this report, the Flu Vaccination Planning Team have already met to plan the campaign for next winter. This process starts with reflections on the previous season’s campaign using a ‘what went well even better if…’ approach. Much of the campaign went well. The approach for 2019-20 will be very similar.

15.7 PLACE results

15.7.1 High standards continue to be maintained with the score for cleanliness 98.58% and for Condition, Appearance and Maintenance the score was 96.69%. All hospital sites were inspected including community hospitals.
15.8 The Health and Social Care Act 2008. Code of Practice for the Prevention and Control of Infection (Hygiene Code)

15.8.1 Both the annual plan and annual report were shared with Devon CCG following presentation to the Board of Directors in July 2017 as evidence of compliance with the Hygiene Code. Our achievements, identified in the annual programme continue to strengthen our position.

15.9 Annual programme

15.9.1 Progress with the Infection Control Annual Programme, which incorporates a health care associated infection reduction plan, has been monitored by the Infection Control and Decontamination Assurance Group. Despite the impact of CIVID 19 in Q4, almost all activities have been completed. The Infection Prevention and Control Team should be commended for proportion of work that has been completed. The actions from the annual report that could not be completed are:

<table>
<thead>
<tr>
<th>Ref</th>
<th>Action</th>
<th>Evidence of Success</th>
<th>Actual outcome and rationale</th>
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<tbody>
<tr>
<td>2.4</td>
<td>Plan and implement annual deep cleaning programme commencing April 2019</td>
<td>Minutes of deep clean meetings</td>
<td>Programme halted due to operational capacity - 16 wards were not deep cleaned. However, reduction in elective activity during COVID 19 has allowed the programme to resume early in 2020-2021.</td>
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15.10 Hand hygiene

A minimum standard of 85% hand hygiene compliance was agreed at the start of 2011 and has once again been achieved (refer Appendix B).
16. CONCLUSION

16.1 Eliminating avoidable healthcare associated infection remains a priority for the public, patients and staff. In response, a robust annual programme of work has, yet again, been implemented over the last year which has been led by an experienced and highly motivated Infection Prevention and Control Team but supported by colleagues at all levels of the organisation. Despite considerable unforeseen staffing challenges this year almost the entire planned programme has been completed.

16.2 Whilst there have been considerable achievements, risk assessments remain on the corporate risk register and remain pertinent.

16.3 A number of key risks and challenges exist and the focus on COVID control has had and will continue to have an impact on other aspects of infection control activity. Clearly, COVID control is extremely important but the need to prevent and maintain control of other types of infection must not be overlooked.

16.4 Infection prevention and control is the responsibility of all Trust employees and the Infection Prevention and Control Team do not work in isolation. The successes over the last year have only been possible due to the commitment for infection prevention and control that is demonstrated at all levels within the organisation. High standards of infection prevention and control and antimicrobial stewardship will remain crucial to minimise the risk of infection and limit the emergence and spread of multi-drug resistant organisms.
17. REFERENCES


Field Epidemiology South West, Public Health England (2020) Limited availability on request from the IPCT.
INFECTION CONTROL AND DECONTAMINATION ASSURANCE GROUP

Terms of Reference

These Terms of Reference are used as evidence for:

<table>
<thead>
<tr>
<th>Care Quality Commission Regulation</th>
<th>Regulation 12 Outcome 8</th>
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<tbody>
<tr>
<td>Other (please specify)</td>
<td>Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance</td>
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1. Accountability

1.1 The Infection Control and Decontamination Assurance Group reports to the Safety and Risk Committee.

2. Purpose

2.1 On behalf of the Trust manage the risks associated with health care associated infection (HCAI), antimicrobial resistance and decontamination. Ensure that the Trust is compliant with the Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance and meets the requirements of the Care Quality Commission Standards.

3. Membership

3.1 • Joint Directors of Infection Prevention and Control (Chair)
• Executive Lead for Healthcare Associated Infection
• Medical Director
• Associate Medical Director (only required in the absence of the Medical Director)
• Chairs of the sub-groups reporting to ICDAG
  o Water Safety Group
  o Antimicrobial Stewardship Group
  o Decontamination Operational Group
• Consultant Microbiologist
• Assistant Directors of Nursing (as Divisional Leads for Infection Control)
• Lead Cancer Nurse
• Head of Midwifery
• A Divisional Director/Divisional Business Manager
• Consultant Geriatrician (C.difficile cohort ward)
• Infection Prevention and Control Nurses
• Head of Safety, Risk and Patient Experience
• Occupational Health Physician
• Health Protection Unit Representative/CCDC
• Head of Estates
• Head of Facilities Management or a Facilities Representative
• Medical Staff Champions (Consultants or Senior Registrars):
3.2 The Infection Control and Decontamination Assurance Group will review the membership annually to ensure that it best reflects the requirements of managing the risks associated with infection control and decontamination within the Trust.

3.3 Individuals may be co-opted for specific projects.

4. A Quorum

4.1 A quorum will consist of not less than 6 members of the group with at least the following members present or represented by a designated deputy:

- Executive Lead for Healthcare Associated Infection
- One of the Joint Directors of Infection Prevention and Control (Chair)
- Consultant Microbiologist
- 2 Assistant Directors of Nursing

5. Procedures

5.1 The Infection Control and Decontamination Assurance Group shall appoint a secretary to prepare agendas, keep minutes and deal with any other matters concerning the administration of the Committee. Minutes will be approved by the group.

5.2 Any member of staff may raise an issue with the Chairman, normally by written submission. The Chairman will decide whether or not the issue shall be included in the Committee’s business. The individual raising the matter may be invited to attend.

5.3 Update reports will be provided to the Safety and Risk Committee quarterly. The chairman of the committee should ensure that the report has been received or reports that the group has not met or has nothing to report

6. Frequency of Meetings

6.1 Meetings will be held no less than every 3 months.

6.2 Extraordinary meetings may be called at the request of any members of the Infection Control and Decontamination Assurance Group or the Chairman.
7. **Duties and Responsibilities**

7.1 Agree and review progress with delivering the annual work plans for infection control, antimicrobial stewardship, water safety and decontamination. Obstacles to delivery or deficits identified within the plans will be reported to the Safety and Risk Committee with recommendations for action.

7.2 Ensure that there are adequate management systems and processes in place to ensure the Trust is able to respond and comply with all statutory, national and local best practice guidance in relation to infection control and decontamination.

7.3 Receive reports from the sub groups, clinical divisions and support services to review and ensure the continued appropriateness of structures and systems / processes to minimise the risk of infection, reporting any identified deficits or obstacles to delivery with recommendations to Safety and Risk Committee.

7.4 Review the appropriateness and effectiveness of audit and surveillance outcome reporting and action planning in relation to prevention and control of infection, ensuring the robustness of information reported across the organisation and to the Board of Directors, and where corrective actions are required or identified, making recommendations to the Safety and Risk Committee and thereby to the Board of Directors.

7.6 To receive reports on and take appropriate action / respond to:
- incidence and prevalence of alert organisms and other important infectious agents
- outbreaks of infection and incidents involving microbiological hazards
- audit and metric monitoring in relation to infection control and hand hygiene
- on-going educational programmes in relation to prevention and control of infection.

7.7 Ensure that the organisation actively investigates, analyses root causes and learns from all significant infection control and decontamination incidents.

7.8 Ensure that adequate systems of education, training and briefing to all staff groups are being delivered in relation to infection prevention and control and decontamination.

7.9 Ensure that all policies and guidance are regularly reviewed, reflect national best practice, consult all relevant parties in their review or development, and are regularly audited for compliance.

7.10 Ratify new infection control policies or revised policies.

7.11 Review the infection control performance dashboard and escalate any emergent themes to the Safety & Risk Committee.

7.12 Identify and manage the risks that are relevant to the group’s duties.

7.13 Conduct an annual review of the group’s effectiveness and comment on this in the
8. **Monitoring the effectiveness of the group**

8.1 The Infection Control and Decontamination Assurance Group will review the Terms of Reference document annually to ensure that it remains fit for purpose and is best facilitated to discharge its duties.

8.2 The Infection Control and Decontamination Assurance Group will monitor its effectiveness by reviewing its duties and responsibilities and comment on this in the Joint Directors of Infection Prevention and Control annual report.

9. **Review**

9.1 The Safety and Risk Committee will review the Terms of Reference of the Infection Control and Decontamination Assurance Group annually to ensure that it remains fit for purpose and is best facilitated to discharge its duties.
The rate of catheter associated urinary tract infection and the % of patients catheterised remains stable.

This quarter has seen a reduction in the numbers of both E. coli and MSSA hospital onset bacteraemia. Investigation of the cases in which learning has been identified yields the necessity to continue to adhere to agreed practice standards for both urinary and intravenous catheters.

Definitions for cases of C. difficile apportioned to the Trust changed from April 2019. Investigation rarely identifies contributory lapses in care. For example, of the six cases for Q4 all have been investigated and no lapses were identified.

Two cases of MRSA (not blood stream infections) were identified on one unit. The patients were siblings and further investigation identified transmission from the patients’ parents.

The Trust wide compliance is once again above 85% as determined by observational audits by ward auditors.

Compliance with the care bundle remains high and the VAP rate low.

The rate of catheter associated urinary tract infection and the % of patients catheterised remains stable.
Increased infections in Q2 resulted in a general strengthening and refreshing of all infection prevention measures. A reduction has been seen since culminating in 0 infections in Q4.

Increased infections in Q1 resulted in a general strengthening and refreshing of all infection prevention measures. A reduction has been seen since culminating in 0 infections in Q4.

Surgical site infection within the spinal surgery category is inline with national expectations and has fallen below the comparative PHE infection rate.

Surgical site infection, within the spinal surgery category is inline with national expectations and has fallen below the comparative PHE infection rate. Action to maintain and/or improve compliance are on-going including: monthly feedback on compliance by ward and division; monthly snap-shot prescriber level feedback delivered via Consultants, regular ward-based pharmacy intervention and feedback; and a scheme to recognise excellence in areas meeting all targets. Auditing in March was stopped due to coronavirus.

Two small single bay outbreaks in January and February resulted in 237 lost bed days.